

Chef'sChoice®

15 Degree Sharpening Module

for use on Chef'sChoice® Model 2100 Commercial Sharpener

Module shown inserted in Model 2100 Sharpener.
(Sharpener not included).



Read these instructions before use.
It is essential that you follow these
instructions to achieve optimum results.

INSTRUCTIONS FOR USE OF 15° SHARPENING MODULE

EdgeCraft offers the 15° detachable sharpening module designed specially to place a factory quality edge on Japanese, Asian style knives and all other 15° knives. It can be used interchangeably on the Model 2100 Sharpener with the standard 20° module designed for the European/American style blades and all other 20° knives. The 15° module is identical in size to the 20° module and it can be removed or installed on the guide rails of the Model 2100 as described in the Model 2100 manual.

The 15° Japanese/Asian module can be used for either straight edge or serrated edges, how-ever the 20° European/American module is recommended for sharpening serrated blades because serrated blades are predominantly manufactured with 20° edge angles to provide greater support for the individual serrations.

While Asian style knives have historically been sharpened at about 15 degrees at the factory and European/American style knives have been made with 20 degree edges, very recently leading German factories have introduced European style knives edged at 15°.

Remove the standard 20° European/American module from the 2100 sharpener and install the 15° Japanese/Asian module as described in the Model 2100 Instruction Manual pages 11-12.

UNDERSTANDING THE DIFFERENCE – EUROPEAN/AMERICAN AND JAPANESE/ASIAN STYLE KNIVES

In general you will find that Euro/American blades shown in Figure 1 are sturdier than the more delicate and thinner contemporary Asian blades as illustrated below. The variation among commercially available knives of any type is great and in fact some Euro/American blades are very thin and certain Asian knives have a thicker cross-section designed for heavier work. Before you begin to sharpen a knife, it is important always to identify the type of edge needed — 15 or 20 degrees, and utilize the correct sharpening module and procedure.

1. EUROPEAN/AMERICAN STYLE BLADES — 20 DEGREE EDGES

While most of the Euro/American style knives (shown on the right), Figure 1 have a thick cross-section designed for heavier work, the range of blade thickness in these familiar blades is great and certain of these knives, such as the conventional paring, fillet and utility blades, have a relatively thin cross-section well suited to their intended application. European/American style straight edge blades are double beveled (sharpened on both sides of the blade) and usually are edged at 20°. Some recently introduced European styled knives however are edged at 15 degrees. Check the knife carefully before sharpening.

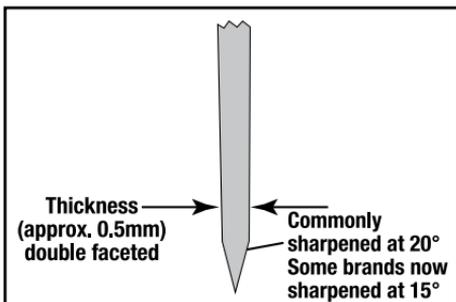


Figure 1. European/American blade.

2. CONTEMPORARY ASIAN STYLE KNIVES — 15 DEGREE EDGES

The more popular contemporary Asian blades; the thin, light weight Santoku and Nakiri for example are generally double faceted, sharpened at 15 degrees on both faces of the blade, as shown in Figure 2. Occasionally Santoku knives are sold with single facets (Figure 3) but these are not readily available in the United States.

There are other but somewhat heavier double-faceted Asian knives, the Deba and Gyutou, popular in Asia, which are used for chopping hard vegetables, for tailing and filleting fish and for meats. These are basically Asian chefs knives designed for heavier duty work but sharpened at 15 degrees. The Chinese cleaver is included in this class.

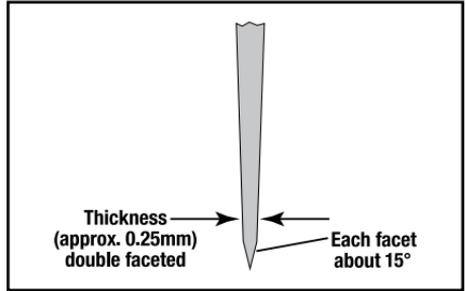


Figure 2. Double faceted contemporary Asian blades.

3. TRADITIONAL JAPANESE STYLE KNIVES — 15 DEGREE EDGES

The traditional Japanese knife is single beveled and has a large factory made bevel A along one face of the blade above a small edge facet. These are sold as either right handed or left handed versions as shown in Figure 3. The large wide factory bevel A is ground, commonly at about 10 degrees. The most popular example of this type blade is the sashimi knife also known as Yanagi and Takohiki, designed as shown to the right. This lengthy, slicing blade is ideal for preparing very thin slices of raw tuna or salmon. The back side of this blade is commonly slightly hollow ground. A small single cutting edge facet of about 15° is created along the front face of the edge of the sashimi blade as shown in Figures 3 and 4 in order to establish the geometry of the cutting edge. An even smaller cutting micro-facet (barely visible to the unaided eye) is customarily created on the back face of the blade to enhance the sharpness of the finished edge. Figure 4 shows a greatly enlarged cross-section view of a typical factory edge on the traditional single-bevel Japanese knife. The large factory bevel A serves to deflect the food slice away from the blade as it is cut. When sharpening the traditional Japanese blades, always follow the instructions carefully. Also remember these knives will be extremely sharp.

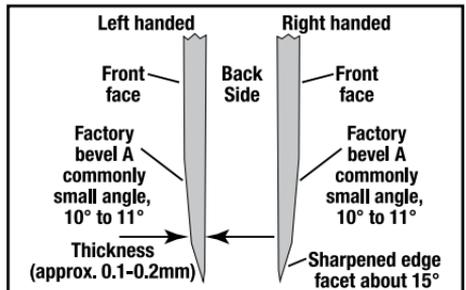


Figure 3. Single beveled traditional Asian blades.

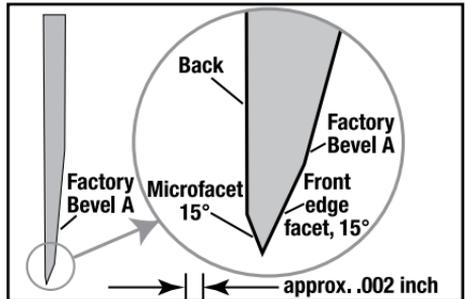


Figure 4. Cross-section of a typical factory traditional Asian knife edge, magnified 50x (right-handed). Both the front edge facets and microfacet are restored in the sharpening stage.

SHARPENING FIRST TIME WITH 15° JAPANESE/ASIAN MODULE

With this 15° module inserted on the Model 2100 and before you turn on the power, you might want to become familiar with this sharpener. Slip a 15° edge knife smoothly into the slot between the left angle guide of Stage 1 and the knife guide spring (see Figure 5). Do not twist the knife. Move the blade down in the slot until you feel it contact the diamond disk. Pull it toward you, lifting the blade handle slightly as you approach the tip. This will give you a feel for the spring tension that guides the knife.

HOW TO SHARPEN CONTEMPORARY ASIAN EDGED BLADES – USE 15° MODULE



15° Santoku Style



Contemporary 15° European Style

STAGE 1 – SHARPENING (CONTEMPORARY DOUBLE FACET 15° ASIAN BLADES)

Always clean the blade before sharpening. Turn “ON” the sharpener. A red “indicator” on the switch appears when the switch is turned “ON”. Pull the knife once thru the right slot of Stage 1 by slowly slipping the blade into the right slot as described above, while moving the blade downward and toward you in that slot until it engages the diamond coated disk. Insert the blade into the slot as close as possible to its bolster or handle. If the blade is curved, lift the handle slightly as you sharpen near the tip of the knife keeping the knife section being sharpened approximately parallel to the table. Sharpen the entire blade length. For an eight (8) inch long blade each pull should be about 6 seconds. Adjust the pull time proportionately for shorter or longer blades. Next, repeat with one full length pull in the left slot of Stage 1.

You should always pull the knife blade toward you as you insert it into the slot. Never push the blade away from you. That combined motion insures uniform sharpening along the length of the blade. Apply just enough downward pressure to make contact with the abrasive wheels – added pressure does not improve or speed the sharpening process. The sharpener is designed to provide automatically the optimum sharpening pressure. Always insert the blade near the bolster or handle and keep it moving as you pull it at a steady rate until it exits the slot.

Always make an equal number of pulls, alternating pulls in the left and right slot of Stage 1 in order to keep the knife edge facets symmetrical.



Figure 5. Sharpening Santoku and contemporary 15 degree European style knives, first in both slots of Stage 1.

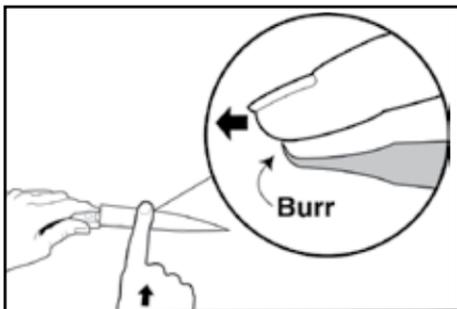


Figure 6. When you create a distinct burr along the blade edge, it can be detected by sliding finger across and away from the edge. Caution! See text.

Generally in Stage 1, only five (5) pair of pulls – five (5) pulls in left slot and five (5) in right slot, alternating pulls on left and right slots – will be adequate to sharpen the edge in this Stage. More pairs of pulls may be needed depending on how dull the edge is. However, before proceeding to Stage 2, it is *very important* to confirm that there has been sufficient sharpening in Stage 1 to create a burr along the entire knife edge.

DETECTING THE BURR

In order to confirm that a burr exists along one side of the knife edge, move your forefinger carefully across the edge as shown in Figure 6.

If the knife is fully sharpened in Stage 1 a burr will appear on one side of the edge. If the last pull of the knife was made in the left slot (for example) a burr will be created along the left side of the edge (as you hold the knife when sharpening). The burr will feel like a rough and bent extension of the edge. There will be no burr on the opposite side of the edge – the opposite side of the edge will feel very smooth by comparison. If the last pull was in the right slot, the burr will be present on the right side of the blade edge.

If no burr exists on the blade edge, make one more pair of pulls in the left and right slots of Stage 1 and check for a burr. If necessary make additional pairs of pulls in Stage 1 until a burr is detected on the appropriate side of the edge. Very dull knives will require more pairs of pulls. Slower pulls will usually help develop the burr. Do not proceed to Stage 2 until you have formed a burr along one side of the edge.

HONING IN STAGE 2

Make two pairs of pulls in Stage 2, alternating each pull in the left and right slots (Figure 7). Take about 3 seconds for each pull with a 5 inch (12.5 cm) long blade. Adjust the pull time proportionately for shorter and longer blades. Two pairs of pulls usually is sufficient.

Check for a burr before proceeding to Stage 3. (As necessary make additional pairs of pulls to develop a burr along the entire length of blade before proceeding to Stage 3.) See section above on “Detecting the Burr.”

STROPPING/POLISHING THE EDGE IN STAGE 3

Pull the blade through the left slot of Stage 3 (Figure 8) and then through the right slot of Stage 3. Make 6-8 pairs of pulls, alternating each pull in the left and right slots. You should take about 3-4 seconds for each pull for a 5 inch (12.5 cm) long blade. For the best edge, apply only light pressure on the knife on each pull, just enough to maintain good contact with the Stage 3 rotating disks.



Figure 7. Honing contemporary knife in both slots of Stage 2.



Figure 8. Stropping/Polishing contemporary knife in Stage 3.

Then make two pair of faster pulls in this Stage, taking about 1 second per pull for a 5 inch blade to put a final polish on the edge.

Check the edge for sharpness. The edge should now be burr-free and exceedingly sharp.

RE-SHARPENING CONTEMPORARY ASIAN STYLE BLADES – USE 15° MODULE

Re-sharpen the contemporary Asian style 15° blades (which have the double facet edge) following the procedures above starting with “Honing in Stage 2” and followed by “Stropping/Polishing the Edge in Stage 3.” Make certain you create a burr in Stage 2 before moving to Stage 3.

If the knife is extremely dull start to re-sharpen first in Stage 1 and follow the instructions thru Stage 2 and 3. Test the finished edge for sharpness.

SHARPENING THE TRADITIONAL (SINGLE BEVEL) JAPANESE BLADE – USE 15° MODULE



Sashimi blade

Traditional Japanese knives such as the sashimi blade shown here are single sided and have a large factory bevel (see Bevel A, Figure 3) on the front side of the blade. There are a large number of manufacturers of knives of this type used widely to prepare sashimi. The factory bevel (Bevel A) is commonly factory ground at about 10 degrees, but there are exceptions and that angle is not standardized at the factories. Designs of the traditional Japanese knives and the detailed structure of the cutting edges likewise vary widely from one manufacturer to the next, however there are some similarities. The cutting edge consists of a small primary facet on the front face of the blade along the bottom edge of the large factory bevel A and a much smaller secondary microfacet along the back face. Commonly the back-side microfacet (Figure 4) can be easily seen only with a hand magnifier. The back face is ground flat at the factory or more commonly it is slightly hollow ground to ensure that an effective microfacet can be formed there as part of the cutting edge. Because of the lack of standardization, the manual approach used to sharpen these knives in Asia has proven difficult, laborious and time consuming. The 15° module is designed to sharpen all traditional Asian blades and to create a factory-quality edge.

Before you start to sharpen a traditional blade, examine it carefully in order to confirm that you have the traditional single bevel blade and to determine whether you have a right or left handed type as described on page 2 and 3, Figure 3. It is essential that you follow carefully the sharpening procedure and sequence as described below in order to achieve the optimum edge on your traditional blade.

Again confirm which side of the blade has the large factory Bevel A. Hold the blade in your hand (as when you are cutting) and if the large factory bevel is on the right side of the blade, the blade is right handed. For the right handed blades start sharpening in the left slot of Stage 2 so that only the large beveled side (right side) of the edge will contact the honing wheel.

STEP 1

START HONING TRADITIONAL JAPANESE KNIVES IN STAGE 2 (RIGHT HANDED BLADES)

(DO NOT USE STAGE 1 — see note)

In this example which assumes your traditional blade is right handed, you must hone only in the left slot of Stage 2 (see Figure 9). The number of pulls that you need to make depends on the factory angle of Bevel A (Figure 3 and 4) and how dull your blade may be.

Make five (5) to ten (10) pulls in only the left slot of Stage 2 (3-4 seconds each for 6” blade) and then check for a burr along the back side of the blade edge. (The burr created in Stage 2 will be small but easily felt as shown in Figure 6. Make certain the burr is present along the entire length of the edge. If there is no burr or only a partial burr, continue to make additional pulls all in the left slot about five (5) at a time and check for a burr after each group of five (5) pulls. In general 20-30 total pulls in the left slot will be adequate to raise a burr; it is unlikely to take more than 50 left slot pulls to create the burr. When a burr is confirmed, proceed to Step 2.

STEP 2

STROPPING/POLISHING THE FINAL EDGE ON TRADITIONAL JAPANESE BLADE IN STAGE 3 (RIGHT HANDED BLADE)

- Make five (5) regular pulls 3-4 seconds each only in the left slot of Stage 3 (Figure 10) and then proceed to remove any burr as follows:
- Make one (1) regular pull in right slot of Stage 3 along the back side of the edge.
- Make several fast pulls (one [1] second each) in the left slot of Stage 3.
- Make one (1) fast pull in the right slot of Stage 3.

Check the blade carefully for sharpness using a thin sheet of paper. The blade should be razor sharp. If not razor sharp repeat c and d above and retest the blade for sharpness.

***NOTE:** If your right handed traditional blade is excessively worn or if the edge is chipped and irregular you can use the left slot of Stage 1 to recondition the edge. Use the left slot only (for right handed blades). Make as many pulls as necessary to reestablish a smooth uniform edge line. Use a black felt pen to mark the right facet and follow progress of sharpening the facet along the edge until edge line is restored. Then proceed in Stage 2 and 3 as described on page 6 and on this same page above.*

RESHARPENING THE TRADITIONAL JAPANESE BLADE (RIGHT HANDED)

In general you will be able to resharpen quickly by following the sequence a thru d of Step 2 in the preceding section. Repeat this if necessary to obtain a razor sharp edge. When resharpening only in Stage 3 fails to develop a sharp edge or if the edge has been substantially dulled you



Figure 9. Honing a right-handed traditional Japanese knife in left slot of Stage 2. Read instructions.



Figure 10. Stropping/Polishing a traditional right handed Japanese knife in left slot of Stage 3. Read instructions.

will need to re-hone the edge in Stage 2. Use only the left slot of Stage 2. Generally you will find that about five (5) re-honing pulls will be sufficient in Stage 2. In any event develop a burr before moving back to Stage 3. Finish the edge in Stage 3 following Steps a, b, c, d.

SHARPENING LEFT HANDED TRADITIONAL BLADES

The procedure you must use with left handed blades is similar to that procedure for right handed blades as detailed above – Except, in all cases the slots you must use are reversed. Where the sharpening procedure for right handed blades calls for use of just the left slot, you must use only the right slot when sharpening a left-handed blade. Likewise where the right handed instructions call for using the right slot, use the left slot when sharpening a left handed blade.

DRESSING OF STROPPING/POLISHING DISKS – STAGE 3

The 15° sharpening module is equipped with a built-in system to manually clean/dress the stropping/polishing disks in Stage 3. In the event these disks become glazed with grease, food or sharpening debris, they can be cleaned and reshaped by actuating the manual lever on the rear of the sharpener. This lever is located as shown in Figure 13 on the lower left corner as you face the rear of the Sharpener. To actuate the cleaning/dressing tool, make sure the power is “ON” and simply press the small lever in the recess to the right, hold about 3-4 seconds and then press to the left and repeat for 3-4 seconds. When the lever is moved in one direction, the dressing tool cleans and reshapes the active surface of one stropping/polishing disk. By moving the lever in the opposite direction you clean the other disk.

Use this clean/dress mechanism only if the Stage 3 white disks are seriously darkened and when Stage 3 no longer appears to be stropping/polishing well. Using this tool removes material from the surface of the Stage 3 disks and hence, if used excessively, it will unnecessarily remove too much of the abrasive surface, wearing the disks out prematurely. If that should occur, factory replacement of the module will become necessary. If you clean your knives regularly before sharpening you may need to clean or dress the Stage 3 disks less than once a year.

CLEANING THE SHARPENING MODULE

When the Sharpening Module becomes soiled or contaminated it should be removed as described and cleaned of food and grease by either of the following two methods:

A. Washing by Hand:

1. Spray the wheels in each stage with liquid dishwasher detergent.
2. Then spray or flood under running water long enough to loosen any attached food, etc.
3. Rinse or spray under a strong stream of warm water.
4. Drain on paper towels.
5. **CAUTION...** if you elect to towel dry, use care not to loosen or damage the plastic hold-down spring.
6. If after hand washing the diamond wheels are not bright and shiny they may still have grease on them. In that event you should consider putting the sharpening module through a dishwasher.

B. Dishwasher: The Sharpening Module is designed to be washed safely in either domestic or commercial type dishwashers

1. Spray the wheels in each stage with liquid dishwasher detergent.
2. Put in upper shelf of dishwasher on normal wash cycle.
3. Allow Sharpening Module to dry in the dishwasher, in a position remote from the heaters.

Periodically remove any metal dust that has collected in the two collection cavities that are located in the base of the sharpener, below the Sharpening Module. With the Sharpening Module removed, simply invert the motor housing and shake the dust loose. Otherwise remove with a damp sponge. Because of the proximity to the electrical motor we do not recommend the use of a water spray or compressed air to remove the loose swarf (metal filings) from the base of the sharpener

INSERTING SHARPENING MODULE

To reinsert the Sharpening Module into the main motor housing, insert the shaft coupling end of the Sharpening Module into the guide rails at the right end of the sharpener. Then gently push the Sharpening Module toward the motor housing until it locks in place. If it resists snapping into the locked position: (1) Pull the module away from the motor shaft until it fully disengages; (2) Turn the motor switch ON briefly; (3) Then turn it OFF; (4) While the motor is still coasting to a stop, push the Sharpening Module into place. It will then automatically snap into position when the spline coupling becomes properly self-aligned.

SUGGESTIONS

1. There is no maintenance required other than for hygiene reasons to remove and clean the Sharpening Module as described regularly in the sink or dishwasher. It is unnecessary to clean this module simply because the honing wheels darken – that is normal. *The wheels are self cleaning (through mild ablation) unless they become covered with fat and grease.* The need for cleaning can be minimized by wiping your knives before and after sharpening as described in this manual. NEVER immerse the motor-drive unit in water. Periodically shake out the metal dust under the sharpening Module as described under “Cleaning the Sharpening Module.”
2. Always clean all food, fat and foreign materials from the knife blade surfaces before sharpening or resharpening. If badly soiled, use detergent and water to clean.
3. Some contemporary Asian knives and Granton type blades are dimpled and some contemporary and traditional Asian blades are made of layered Damascus steel. All of these should be sharpened accordingly to these instructions depending solely on whether the knife style is contemporary (two facets) or a traditional single facet Asian blade.
4. Always pull the blades at the recommended speed and at a constant rate over length of blade. Never interrupt or stop the motion of the blade when in contact with abrasive disks.
5. Carefully follow the detailed procedures for each type blade for best results and to extend the useful life of your knives. The sharpening sequence is especially important with the single sided traditional Asian blades.

6. The edge of the knife blade, while sharpening, should remain in contact with the abrasive disks as the knife is withdrawn from the guiding slot. To sharpen the blade near the tip of a curved blade, lift the handle up slightly as you approach the tip of the blade but just enough so that the edge as it is being sharpened maintains audible contact with the honing or stropping disk.
7. To increase your proficiency with the Chef'sChoice® 15° sharpening module, learn how to detect a burr along the edge (as described on page 4 and 5). While you might be able to sharpen well without using this technique, it is the best and fastest way to determine when you have sharpened sufficiently in the preliminary steps. This will help you avoid oversharpening and ensure incredibly sharp edges every time. Cutting a tomato or a piece of paper is a convenient method of checking for finished blade sharpness.
8. Use only light downward pressure when sharpening – just enough to establish secure contact with the abrasive disk. Greater pressure does not speed the sharpening.
9. If your knife has a significant choil you may find it helpful to place your index finger within or just behind the choil (see Figures 11 and 12) as you insert the blade in the sharpener. Your finger can act as a “stop” and prevent you from inserting the blade so far that the choil area will catch on the front stop-bar of the sharpener as you withdraw the blade. A little practice will help you perfect this technique. As you insert the blade let your finger slide down the front of the sharpener.

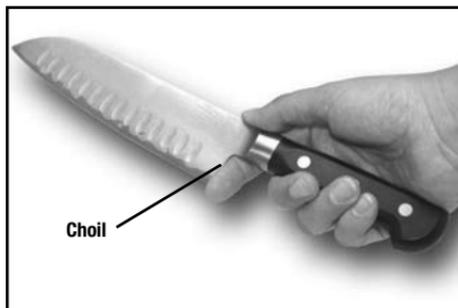


Figure 11. If your blade has a significant choil it may be helpful to place our finger behind it as shown when sharpening.



Figure 12. Insert your index finger as shown behind the choil as the knife is inserted into the sharpening slot (see Suggestion 8.)



Figure 13. Use dressing tool sparingly — see text.

10. Used correctly, you will find you can sharpen the entire blade to within 1/8" of the bolster or the sharpener handle. This is a major advantage of the Chef'sChoice® Model 2100 compared to other sharpening methods—especially important when sharpening chef's knives where you need to sharpen the entire blade length in order to maintain the curvature of the edge line. If your chef's knives have a heavy, thick bolster near the handle extending to the edge, a commercial grinder can modify or remove the lower portion of the bolster so it will not interfere with the sharpening action, allowing you to sharpen the entire blade length.
11. The stropping/polishing disks in the Stage 3 are designed to last for years of use, however you can maximize their useful life by periodically modifying your sharpening pattern in Stage 2. The burr developed in Stage 2 will mildly wear the stropping polishing disk it first contacts in Stage 3. Vary your last pull in Stage 2 by sometimes making the last pull on the left disk and at other times finish on the right disk of Stage 2.
12. Do not attempt to use this sharpener to sharpen either ceramic knives or any scissors.

SERVICE

In the event post-warranty service is needed, return your sharpener to the EdgeCraft factory where the cost of repair can be estimated before the repair is undertaken. Outside the USA, contact your retailer or national distributor.

Please include your return address, daytime telephone number and a brief description of the problem or damage on a separate sheet inside the box. Retain a shipping receipt as evidence of shipment and as your protection against loss in shipment.

Send your sharpener (insured and postage prepaid) to:

EdgeCraft Corporation
825 Southwood Road
Avondale, PA 19311 U.S.A.

NORMAL MAINTENANCE

NO lubrication is required for any moving parts, motor, bearings or sharpening surfaces. There is no need for water on abrasives. The exterior of the sharpener may be cleaned by carefully wiping with a soft damp cloth. Do not use detergents or abrasives.

EdgeCraft

World Leader in Cutting Edge Technology®

EdgeCraft Corporation

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Assembled in the U.S.A.

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